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DIRECTORATE OF INTELLIGENCE

25 October 1985

Philippine Leading Indicators: A New Tool
For Keeping Tabs on the Economy [redacted]

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Summary

Current analysis of the Philippine economy has been handicapped because data on economic activity typically are reported with a three- to six-month lag and are subject to considerable later revision. To circumvent this problem, we have developed a CIA index of economic indicators--which follow money, prices, trade, profit expectations, government revenues, and manufacturing employment and production costs. We judge these will give advance warning of a turn in the economy, providing a systematic and continuous means for tracking the pulse of activity months before national output statistics are released. [redacted]

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Our most recent analysis of the indicators suggest the two-year economic decline has levelled off. In the months ahead, we believe continued growth in exports, stock prices, and reserve money would indicate the economy has turned a corner and may be poised for recovery. Alternatively, lack of growth in these indicators during the next few months would foreshadow continued economic malaise. [redacted]

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This typescript memorandum was prepared by [redacted] and [redacted], Islands Branch, Southeast Asia Division, and [redacted] Systems Development Staff, Office of East Asian Analysis of the Directorate of Intelligence. It was coordinated with the National Intelligence Council. Information available as of 19 October was used in its preparation. Comments are welcome and may be directed to the Chief, Southeast Asia Division, [redacted]

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Tracking a Moving Target

Tracking the Philippine economy is particularly important as local and presidential elections approach in mid-1986 and 1987 and as Manila struggles to contain the rapidly growing Communist insurgency. A "real-time" assessment of the twists and turns in the economy, however, is handicapped by lags in Philippine Government data; GNP statistics typically are released three to six months after the reporting period ends--and have been subject to considerable later revisions. For example, although national output declined by 5.3 percent last year and by 3.5 percent in the first half of this year, economists differ over whether aggregate economic activity in the Philippines continues to decline, has bottomed out, or is beginning to increase.¹

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To help resolve this dilemma and improve our current analysis of the economy, we have constructed an index of leading economic indicators (see Table 1). The CIA index is a composite of eight financial and economic variables that allows us to

Table 1

Philippine Economic Indicators: Components of the Index

<u>Indicator</u>	<u>Timing Relative to the Economy</u>	<u>Relation to National Output</u>
Stock Prices	Leading	Incorporates expectations of profits and investor views of the economy's future.
Consumer Price Inflation	Concurrent	Price changes track the balance between spending and production. As economic activity increases, prices of goods, services, and wages are bid upwards.
Reserve Money	Leading	Determines funds available to banks for lending and influences total spending.
Government Revenue	Concurrent	Reflects domestic sales and imports--which account for over 65 percent of government revenues--as well as personal and corporate income, which together provide another 20 percent of revenues.
Exports	Leading	Directly and indirectly accounts for nearly 40 percent of national output.
Imports	Concurrent	Reflects demand for productive inputs and consumption goods.
Value of Manufacturing Output	Leading	Tracks the total cost incurred in manufacturing goods, reflecting anticipated demand and order backlogs.
Manufacturing Employment	Leading	Indicates employment in 15 sectors, tracking the actual or anticipated demand for goods.

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¹We believe that a growth rate of minus 3.5 percent for the first six months of this year--calculated by seasonally adjusting GNP data--is a more accurate measure of changes in GNP than the 4.6 percent decline reported by Manila.

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anticipate when an economic turning point is imminent. (See appendix for a detailed discussion of the methodology).

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Even though data limitations make it difficult to track the agriculture or service sectors, we believe on the basis of the index's performance when run against data available over the past 12 years, that it is sufficiently broad to anticipate major turns in the economy. Our analysis of the index suggests that it leads turns in the economy by three to four months--well before quarterly GNP data are available. When the index turns upward, for example, an upswing in the economy may be in the offing. A one-month change in the index, however, is not sufficient to signal a turning point in the business cycle; a sustained change of direction of up to six months is required.

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What Do the Indicators Currently Tell Us?

Using data available through July of this year, combined with the knowledge that the index leads changes in the economy, we believe that the two-year slide of the Philippine economy has ended. The relative stability of the index in recent months suggests that the economy stopped its decline in August or September and that its flat performance continues into October. Six of the index's eight components have stopped falling. Indeed, export volume has improved markedly since earlier this year, although still below its 1984 levels.

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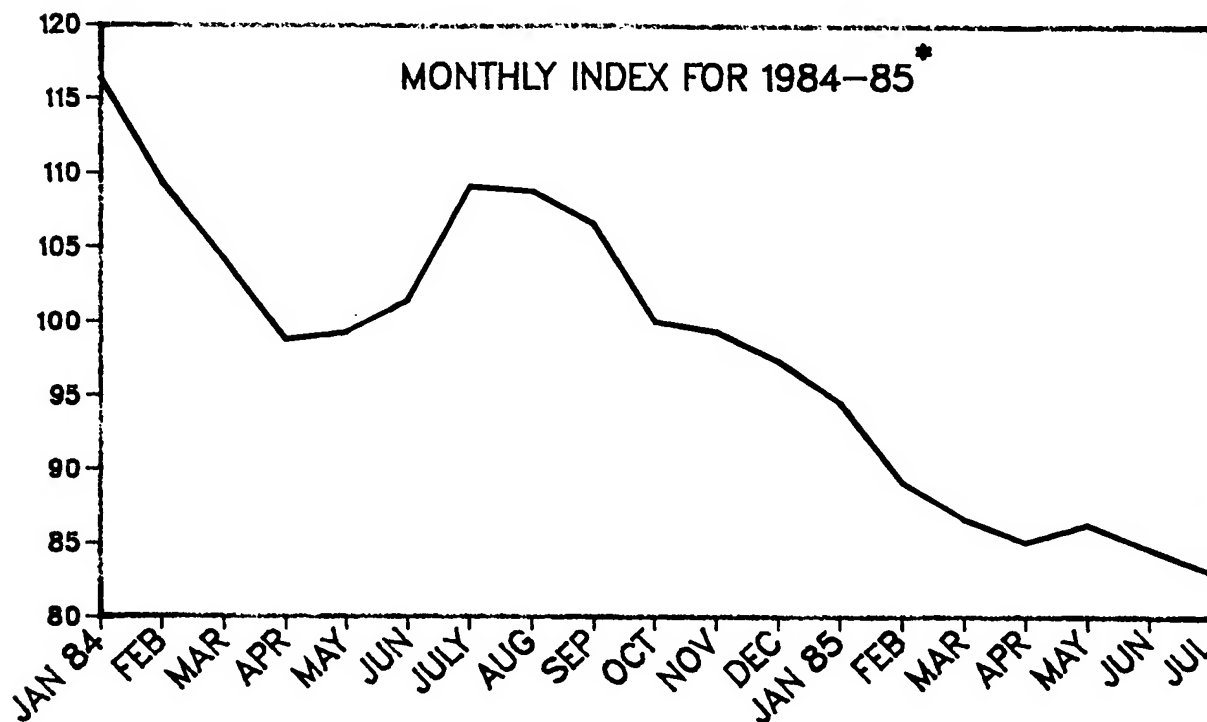
Nevertheless, the signals being sent by the indicators are not without ambiguity. Declining inflation and government revenues, for example, suggest a continuation in the economy's deterioration. Falling inflation rates often reflect weak demand for domestic goods, while declining government revenue suggests that sales, trade, and incomes are depressed. The continued downturn in these two indicators is less troubling than it seems, however, because they usually reflect the current state of the economy, rather than future changes (see Figure 1).

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If the index of indicators remains relatively flat for the next few months--and preliminary data for August indicates that it is--economic growth in the second half of this year will probably be close to zero. However anemic this appears, it would be the best economic performance for the Philippines

Figure 1

THE PHILIPPINES: ECONOMIC INDICATORS



*Three-month moving average, April 1984 = 100.

since the first half of 1983.² Two of the four indicators available for August are up. The Manila stock market showed a sharp gain in August--a trend which continued throughout September--and the inflation-adjusted money supply continues to trend upward.

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What to Watch in the Coming Months

During the next three to four months, we believe that a sharp improvement in the month-to-month performance of export volume, stock prices, and inflation-adjusted money supply would indicate that the economy has turned the corner and may be

²Even if the economy does not contract further or even grows a little, it is probable that the growth rate Manila reports for the second half of 1985 will still be negative. This is a result of the statistical method Manila uses to calculate economic growth. The Philippine Government reports GNP growth rates on a year-over-year basis rather than a seasonally adjusted quarter-to-quarter basis--as is the case in the United States.

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poised for recovery. For example, our analysis indicates that the economy is particularly sensitive to the performance of exports--a 10-percent increase in export earnings raises GNP growth by four percentage points.³ In addition, a sustained improvement in the stock prices of the largest Philippine corporations--in decline since early 1979--would indicate that investors expect profits to improve and that they are more hopeful about the economy. Moreover, an improvement in inflation-adjusted money balances--one intended outcome of the IMF's recent move to raise Manila's ceiling on reserve money--would reflect an increase in loanable funds at commercial banks available to finance consumer and business spending. [redacted]

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An upturn in the economy would be further confirmed if the index of manufacturing output and employment showed month-to-month improvements--reversing its 35-percent decline since 1981. Because the manufacturing sector is concentrated in Manila, its expansion would help to reverse the city's 28 percent unemployment rate and to stem growing labor unrest, in our judgment. [redacted]

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Alternatively, a further contraction of the economy would be indicated by a decline in the real value of exports. Continued poor export performance is possible if the turnaround in the world market for electronics--expected by many industry analysts for early next year--fails to materialize or Philippine commodity exports slump because of weak world markets. A resumption of the "bear" market in Philippine stocks, moreover, would suggest that forecasts of improving profits have been revised downward and that investors are increasingly concerned about the country's political future. [redacted]

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³This analysis is based on the CIA econometric model of the Philippine economy. [redacted]

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Appendix

Economic Indicators: Methodology

An index of indicators monitors the timing of business fluctuations, determining when the balance of the individual indicators signals a turn from overall economic contraction to expansion. An index of leading indicators, for example, can call a turn in the business cycle well in advance of the event--a 10-month lead time is average for the US leading indicators compiled by the Department of Commerce. Coincident indicators, on the other hand, call a turn within a few months of the event. Variables used in an index typically cover different aspects of the economy, including output and employment, investment and savings, money, credit and interest rates, price-cost relationships, profits, and business expectations.

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Developing Indicators for the Philippine Economy

Steps taken to develop an index of leading indicators for the Philippine economy include:

--**Identifying candidate data series.** A candidate data series must reflect aggregate economic activity such as manufacturing output. Therefore such narrow series as gold production are omitted. Furthermore, data must be available on a timely basis.

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--**Selecting the data series.** Variables are included in the index by scoring high on a ranking which covers their consistency since 1973 against movements in GNP, the smoothness and statistical adequacy of data, the current availability of data, and the variable's economic significance. On this basis, we selected eight variables, including stock prices, consumer prices, inflation, employment in manufacturing, value of manufacturing output, exports and imports, government revenue, and reserve money.

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--**Building the Index.** The selected variables are combined into one index by assigning weights for their relative importance based on the average percentage change in each variable--a process which compensates, for example, for large percentage changes in inflation compared with small percentage changes in exports. To eliminate biases introduced by inflation and regular seasonal fluctuations, each variable has been seasonally adjusted and deflated. In addition, the index is converted into a three-month moving average to smooth out random fluctuations.

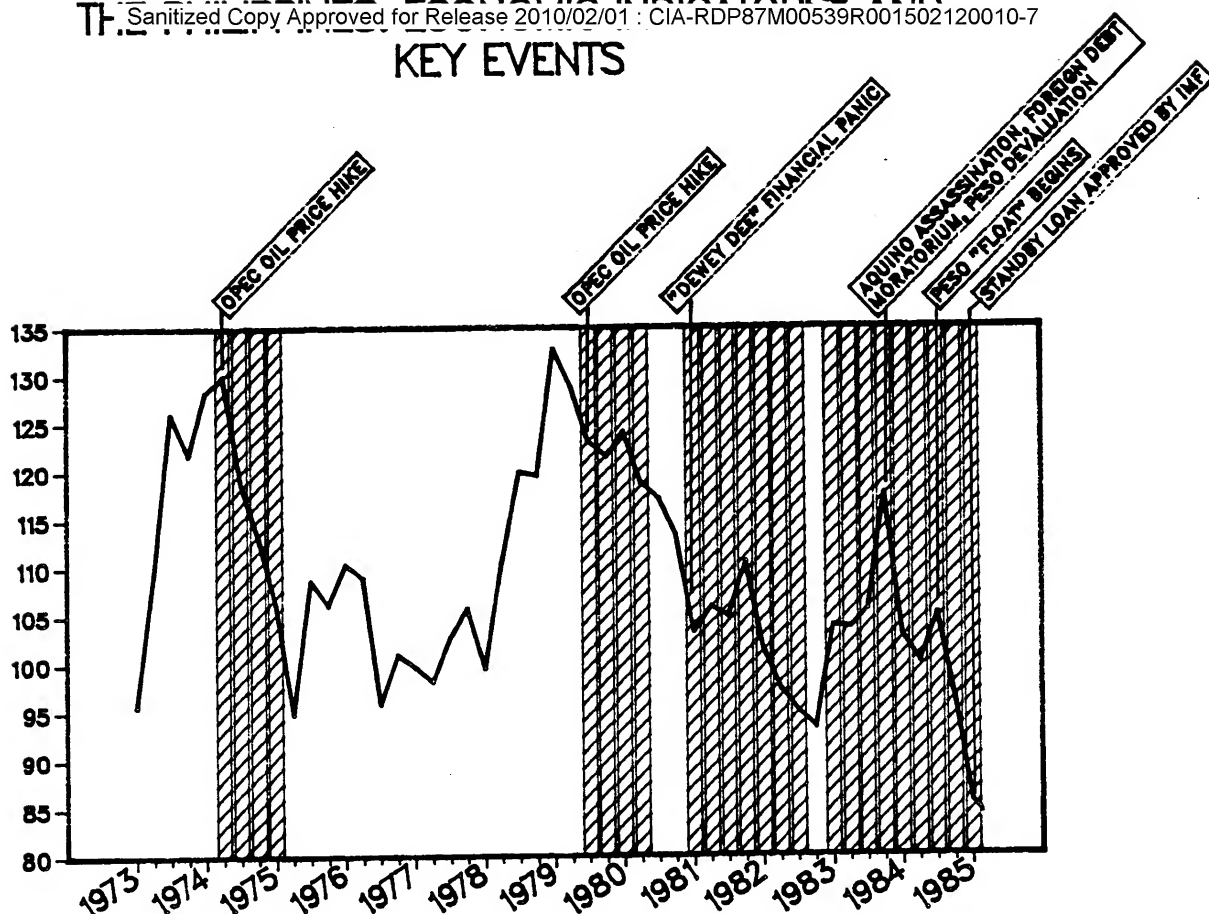
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Caveats

The index of leading indicators for the Philippines contains several shortcomings. For one thing, accurate and timely data covering national employment and compensation are not available. Furthermore, only a relatively small number of economic variables are available on a timely basis, and two large sectors of the economy--agriculture and services--are not well tracked by any of the variables. This problem is less serious than it might appear because agricultural output varies little in the short-run compared with manufacturing output and, as a result, agriculture is generally not responsible for triggering a turn in economic activity.

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KEY EVENTS



*QUARTERLY AVERAGE OF SEASONALLY ADJUSTED MONTHLY DATA.
SHADED AREAS INDICATE RECESSIONS.

RECESSIONARY PERIODS WERE CALCULATED USING A MODIFIED US NATIONAL BUREAU OF ECONOMIC RESEARCH METHOD. RECESSIONS INCLUDE BOTH DECLINES IN GROSS NATIONAL PRODUCT AND SLOWDOWNS IN GROWTH--"GROWTH RECESSIONS"

THE INDEX'S SHARP INCREASE IN LATE 1983 IS CAUSED BY RAMPANT INFLATION AND THE CONTINUED PESO DEVALUATION. UNDER THESE EXTREME CIRCUMSTANCES, OUR DEFLATORS DO NOT MAKE AN ADEQUATE ADJUSTMENT FROM NOMINAL TO REAL VALUES.

Figure 2.

Typescript: Philippine Leading Indicators: A New Tool for
Keeping Tabs on the Economy [REDACTED]

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Original--OEA/SEA/IB

- 1--OEA/SEA/ITM
- 1--D/OEA (4F18)
- 1--DC/OEA/SEAD
- 1--PDB Staff (7G15)
- 1--NIC/Analytical Group (7E62)
- 1--NIO/EA (7E47)
- 5--CPAS/IMC/CB (7G07)
- 1--C/PES/DDI (7F24)
- 1--DDI (7E47)
- 1--DCI (7D60)
- 1--DDCI (7D6011)
- 1--C/DO/IAD (3D00)
- 1--C/DO/EA (5D00)
- 1--C/OEA/CH (4G32)
- 1--C/OEA/SDS (4G32)
- 1--C/OEA/NA (4G43)
- 1--DO/EA [REDACTED] (5D38)
- 1--D/OEAA (4F18)
- 1--Executive Director (7E12)
- 1--CPAS/ILS (7G15)
- 1--OEA/NEA (4G43)
- [REDACTED] NIC/Analytical Group (7E47)
- 1--OEA/Research Director (4G48)
- 1--NIO/Econ (7E47)
- 1--OGI/ECD (3G46)
- 1--OGI/FSIC/I (3G46)
- 1--OCR/ISG (1H19)
- 1--OCR/OEA (1H18)

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Outside:

State:

- 1--John Monjo, EAP
- 1--John Maisto, EAP/PHL
- 1--Verne Dickey, EAP/PHL
- 1--Ambassador Ernest Preeg, EAP/EP
- 1--Nicholas Burakow, EB/IFD/OMA

INR:

- 1--John Taylor
- 1--Alan Kitchens
- 1--Corazon Foley
- 1--Majorie Niehaus
- 1--Dick Hermann

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AID:

1--David Merrill, ANE/SEA
1--Frank Young, ANE/SEA
1--Michael Crosswell, ANE/DP

Treasury:

1--Douglas P. Mulholland
1--William McFadden, IDN
1--William Quinn, IDN
1--Ciro Defalco, IDN

Export-Import Bank:

1--Russell Price
1--Ray Albright

NSC:

1--Richard Childress
1--David Laux
1--Alan Thomas

DOD:

1--Lt. Col. Robert Cooley, AF/INER
1--James Kelly, ISA
1--James Cossey, ISA
1--Don Eirich, ISA/EAP
1--Lt. Col. William Wise, ISA

DIA:



Commerce:

1--Byron Jackson
1--William Brown
1--George Paine
1--Ronald Oechsler

Federal Reserve Board

1--Robert Emery

IPAC:

1-Timothy Wright



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